

MILLENNIUM

COMMUNICATIONS GROUP INC.

Federal GSA Schedule #70
Contract # GS-35F-0220R
NJ State WSCA Contract #73979
Universal Spin # 143007785

March 7, 2014

WC Docket No. 10-90

Marlene H. Dortch
Secretary
Federal Communications Commission
Washington, DC 20554
Via ECFS

Dear Ms. Dortch,

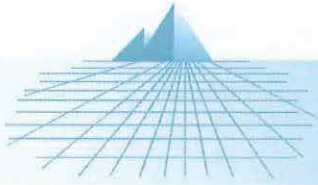
This letter represents our expression of interest in participating in Connect America Phase II experiments for the deployment of broadband to rural America.

Background

Millennium Communications Group Inc. is a leader in fiber based broadband technology services, located in the northeast. In addition to providing fiber optic based services to LEC's, competitive LEC's, cable operators, and electrical utilities, our company, working with numerous municipalities, State and Federal agencies, higher education, and authorities, has enabled these entities to build and own faster, more robust fiber based network architectures than possible when relying on traditional carriers.

Through our years of experience in these areas, we have developed many innovative network topologies for the delivery of broadband service. It is through this work that we became involved in a fledgling FTTH project in rural Vermont. The project is a collection of underserved towns in the State, who endeavored to deploy their own broadband network utilizing fiber-to-the-home technology, after being totally ignored by the incumbent carrier. This effort was thwarted when the financial markets collapsed, and financing options all but dried up.

Facing the devastating loss of their project, the Governing Board began to search for alternatives and called upon our team to develop a low cost solution for delivering true fiber-to-the-home in the most rural parts of the state. In 2008, our team began its work on a design that could help to make rural deployment of broadband, delivered over fiber (to the home), a reality. Using all of the experience our



MILLENNIUM COMMUNICATIONS GROUP INC.

team has garnered over the thirty plus years we have been designing these networks, we succeeded in reducing the design and construction cost of a true FTTH network, to under \$14,000 per mile.

With this unique and revolutionary approach to rural deployment of fiber, we immediately set out to model its' use in areas with as little as 12 homes per mile (averaged).

Our first deployment was a 21 mile double play network in Vermont, passing just over 250 homes. The network is capable of delivering 1 gigabit (symmetrical) broadband service, a far cry from the dial up service that was available to the residents prior to the FTTH network. Take rates on this first phase of network have exceeded 80%, and the total network deployed throughout the service area to date is more than 180 miles.

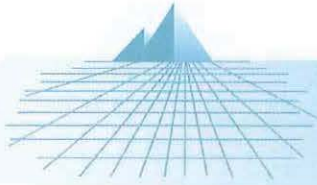
Expression of Interest

Our company has been working with many rural communities in the Northeast, developing plans promoting FTTH deployment, where the incumbents have denied their requests for the same. These plans include community ownership, Millennium ownership, or a combination public-private partnership between the community and Millennium Communications.

As we are working with more than 50 communities in the region, who are anxious to get connected, choosing a deployment area would be based entirely on the amount of available funding. For example, funding for construction of all towns would be well in excess of \$145 million, as opposed to a much smaller project encompassing three or four towns at \$5 million. Millennium desires to work with communities throughout New England, that are underserved, picking the right combination of location and need for deployment of a rural trial. The network would provide service availability to all residents, schools, libraries, government and businesses.

Architecture

Utilizing GPON technology over fiber, we would deploy a fiber path to each resident, business, school or other government entity desiring service. Through our innovative approach, we have been able to provide a robust, future proof FTTH design, easily allowing for real broadband deployment in rural America. We have field tested our design in an active deployment, currently serving 650 subscribers and are satisfied that it will stand the test of time among competing technologies.



Service Offerings

The evolution of broadband networks is rewriting the traditional thinking of what service is. In our opinion, and through our experience, the traditional triple play over the network will become a thing of the past in the coming few short years. Starting with voice, each day more and more IP phone providers are available over the internet for retail purchase. These services allow subscribers to choose providers that suit their individual needs, while satisfying important public safety and E911 criteria. Additionally, as more and more video content becomes available over the internet, we see the antiquated model of prepackaged video offerings going by way of the telegraph. These two important milestones represent the beginning of the truly "open network", allowing the individual subscriber the ability to pick and choose based on his or her individual needs, thus fostering true competition.

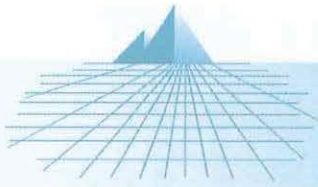
As this revolution comes to fruition, the network becomes just a duct by which information is passed. Service becomes simply a matter of requested speed, based on the subscriber's requirements. Network speeds as low as 4mbps symmetrical or as high as 1gbps symmetrical can be offered, with pricing reflecting the needs of the individual subscriber.

Public/Private Partnership

In our experience to date, the communities we are working with, because they recognize the importance of adequate broadband service, have been very involved in the process. We have prepared numerous business plans to these communities that provide for their involvement on many levels. Whether it's through the community's outright ownership of the network, our ownership or a combination of both, they recognize that for their communities to survive, broadband needs to be part of the long term plan. The enthusiasm of the communities goes far beyond traditional provider/client relationships, with their active participation in the make ready process, administering resident surveys establishing support, alternative financing methods, and/or guaranteeing take rates. The citizens of these remote areas of our country feel left behind because they don't fit a specific profit formula. We are bringing them hope that there is a chance they too can participate in the new global economy.

Build Out Hurdles

The two most significant costs associated with the build out of Rural FTTH networks has been Make-ready charges and customer connections. Our modeling in the Vermont project allowed for 12 homes per mile with a 50% take rate. The average cost per mile of customer connections in the project is \$6,000. Adding to this cost, make-ready charges of between \$300 and \$600 per pole, (\$7,800 to \$15,600 per mile), brings the total customer connection and make ready cost to as high as \$21,600 per mile.



Make-ready

Make-ready expense is an area we feel the FCC can make an impact, by requiring the pole owners to allow for more flexible attachments, thus lowering the make-ready cost, while still remaining compliant with NESC safety codes and Telcordia SR-1421. We have modeled no less than 14 different pole attachment methods, all sanctioned by both the NESC and Telcordia, that will dramatically reduce make-ready costs. Applying these to the Vermont project would have saved over 90% of the make-ready costs. That amount of money is staggering, representing more than half the overall build cost. Reducing it or eliminating it goes a long way to making rural broadband more of a reality. Unfortunately, we met with resistance from the existing attachers, and ultimately, were forced to pay higher fees to prepare our attachment.

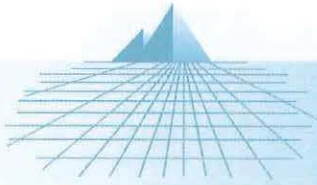
We believe that if a form of financial relief and or regulatory relief for make-ready is provided, the fiber design and construction method we have modeled will more than adequately financially support rural broadband deployment.

Customer Connections

As stated, customer connections in rural areas tend to be more costly than urban areas, specifically due to the distance from the public right-of-way and thus, the network. Average customer connection distances can be upwards of 600 feet, with many requiring underground laterals, further complicating the activity. Sharing most or all of this expense with the individual subscribers greatly improves the business plan of rural broadband deployment which on average amounts to about \$1,000 per connection. Establishment of a needs based fund, which could be accessed to help offset the cost of the network connection, outside and apart from the current USF curriculum of funding service, would be a useful tool to help those who would otherwise be left behind.

Funding Required

We believe that in the funding of a test project by the FCC, covering the make-ready costs and the cost of customer installations can help to overcome the major hurdles of rural broadband deployment. We have identified several communities that would welcome a chance to participate in this project and have established a plan to serve 125 miles of network in these underserved areas. The total capital cost of such a project would be approximately \$8,000,000, with total funding required at \$10,000,000 to cover operational expenses and carrying costs until the project reaches profitability. Funding for the network build would come from ordinary channels with additional funding from the FCC to cover make-ready and customer installation costs at \$3,300,000 and \$1,700,000 respectively, for a total of \$5,000,000 in FCC project funding. Under this model and at a 50% take rate, the project goes EBITDA positive after one year and cash flow positive in year three.



MILLENNIUM COMMUNICATIONS GROUP INC.

Summary

As with any network deployment, the economies of scale further the success of the business plan. In modeling rural deployments, where subscribers are limited, we need to reduce or distribute to the end user as much of the variable capital cost as possible. Unfortunately, rural communities have an inordinate amount of families living at the poverty level, making the latter a challenge. Funding this challenge should be considered as part of Connect America strategy going forward.

Our company continues to work with numerous towns in New England and we feel that our design and method of operation, as was deployed in Vermont, can and will sustain real broadband throughout rural America. This promise becomes even more realistic when factoring in the many middle mile projects that have been built over the past few years. Leveraging these networks, relief from make-ready costs, funding customer connections and deploying the innovative network design we have developed will more than adequately pave a road to universal coverage in rural America.

Thank you for your consideration.

Sincerely,

Ronald M. Cassel
CEO